

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions and listings of claims in the application:

Listing of Claims

1. (previously presented) A cranial flap clamp for fixing a bone flap to a skull comprising:

a first clamping member having inner and outer surfaces, at least a portion of the inner surface positionable against inferior surfaces of the bone flap and skull;

a substantially smooth extension member extending from the first clamping member and configured and dimensioned to fit between the bone flap and the skull; and

a second clamping member having inner and outer surfaces and an opening through the inner and outer surfaces for slidably receiving the extension member, with at least a portion of the inner surface positionable against superior surfaces of the bone flap and skull, the opening having a recessed area forming a cutting surface; wherein:

the first and second clamping members have a first position of the second clamping member distal to the first clamping member and a second position of the second clamping member proximal to the first clamping member that urges the inner surface of the first clamping member against the inferior surfaces of the bone flap and skull and urges the inner surface of the second clamping member against the superior surfaces of the bone flap and skull;

the inner surfaces of the first and second clamping members are concave in the first position and flatten out in the second position;

the second clamping member has a disk shape with a plurality of cutouts extending radially inward from an outer circumference of the second clamping member; and the extension member comprises an integrally formed stop on the extension member adjacent the outer surface of the second clamping member after the first and second clamping members are in the second position to secure the inner surface of the first clamping member against the inferior surfaces of the bone flap and skull and the inner surface of the second clamping member against

the superior surfaces of the bone flap and skull, the stop sized and configured to fit substantially within the recessed area.

2. (previously presented) A cranial flap clamp for fixing a bone flap to a skull comprising:

a first clamping member having inner and outer surfaces, at least a portion of the inner surface positionable against inferior surfaces of the bone flap and skull;

a smooth extension member extending from the first clamping member and configured and dimensioned to fit between the bone flap and the skull; and

a second clamping member having inner and outer surfaces and an opening through the inner and outer surfaces for slidably receiving the extension member, with at least a portion of the inner surface positionable against superior surfaces of the bone flap and skull; wherein:

movement of at least one of the first and second clamping members from a first position of the second clamping member distal to the first clamping member to a second position of the second clamping member proximal to the first clamping member urges the inner surface of the first clamping member against the inferior surfaces of the bone flap and skull and urges the inner surface of the second clamping member against the superior surfaces of the bone flap and skull;

the second clamping member is fixed with respect to the extension member by a crimping force applied to the extension member adjacent the second clamping member; and

the second clamping member has a plurality of cutouts extending radially inwards from an outer circumference of the second clamping member so that the inner surface of the second clamping member is concave when the first and second clamping members are in the first position and the inner surface of the second clamping member flattens out when the first and second clamping members are in the second position.

3. - 4. (canceled)

5. (previously presented) The cranial flap clamp of claim 2, wherein the extension member is a tube and the stop comprises a crimp in the tube.

6. (original) The cranial flap clamp of claim 5 wherein the extension member includes a head located at a distal end and the first clamping member includes a bore for slidably receiving the extension member, the head engaging edges of the bore to prevent the first clamping member from sliding off the extension member.

7. (original) The cranial flap clamp of claim 6 wherein the tube has an enlarged portion near the inner surface of the first clamping member for preventing movement of the first clamping member along the tube away from the head.

8. (original) The cranial flap clamp of claim 5 wherein, when the first and second clamping members are in the first position, the tube includes a flared proximal portion for preventing the second clamping member from sliding off the tube.

9. (original) The cranial flap clamp of claim 5 wherein the opening has a substantially circular shape which is smaller than the crimp.

10. (original) The cranial flap clamp of claim 9 wherein the opening includes a countersink for receiving the stop and the stop fits substantially within the countersink.

11. (previously presented) A cranial flap clamp for fixing a bone flap to a skull comprising:

a first clamping member having inner and outer surfaces, at least a portion of the inner surface positionable against inferior surfaces of the bone flap and skull;

an extension member extending from the first clamping member and configured and dimensioned to fit between the bone flap and the skull, the extension member being smooth and comprising a stop located at a surgeon selected location along the length of the extension member; and

a second clamping member having inner and outer surfaces and an opening through the inner and outer surfaces for slidably receiving the extension member, with at least a portion of the inner surface positionable against superior surfaces of the bone flap and skull, wherein:

movement of at least one of the first and second clamping members from a first position of the second clamping member distal to the first clamping member to a second position of the second clamping member proximal to the first clamping member urges the inner surface of the first clamping member against the inferior surfaces of the bone flap and skull and urges the inner surface of the second clamping member against the superior surfaces of the bone flap and skull; and

at least one of the clamping members has a plurality of radial cutouts extending radially inwards from an outer circumference of the member so that movement of the clamping member from the first position to the second position causes the inner surface of the clamping member to flatten out allowing the clamping member to at least partially conform to the outer surface of the bone flap and skull.

12. (previously presented) The cranial flap clamp of claim 76 wherein the stop comprises a twisted portion of the ribbon.

13. (previously presented) The cranial flap clamp of claim 12 wherein the second clamping member is provided with a recessed area surrounding the opening, wherein the stop fits substantially within the recessed area.

14. (previously presented) The cranial flap clamp of claim 13 wherein the recessed area forms a cutting surface so that the stop may be formed by twisting and shearing of the ribbon.

15. (original) The cranial flap clamp of claim 11 wherein the extension member is integral with the first clamping member.

16. (original) The cranial flap clamp of claim 11 wherein the second clamping member has at least one fastener hole for receiving a fastener.

17. - 26. (canceled)

27. (previously presented) A cranial flap clamp for fixing a bone flap to a skull comprising:

a first clamping member positionable against inferior surfaces of the bone flap and skull;

a smooth extension member extending from the first clamping member and configured and dimensioned to extend between the bone flap and the skull;

a second clamping member positionable against superior surfaces of the bone flap and skull and comprising an opening in which a portion of the extension member is disposed and a recessed area forming a cutting surface proximate the opening; and

an integrally formed stop on the extension member abutting the second clamping member for limiting movement of the second clamping member when the first clamping member abuts the inferior surfaces and the second clamping member abuts the superior surfaces; wherein:

the portions of the first and second clamping members that abut the surfaces of the bone flap and skull are substantially smooth;

the first and second clamping members each comprise a disk shape; and

the second clamping member further comprises a plurality of cutouts extending radially inwards from an outer circumference of the member.

28. – 30. (canceled)

31. (previously presented) The cranial flap clamp of claim 27, wherein the extension member comprises a tube and the stop comprises a crimp in the tube.

32. (previously presented) The cranial flap clamp of claim 31, wherein the opening has a substantially circular shape that is smaller than the crimp.

33. (previously presented) The cranial flap clamp of claim 27, further comprising a head disposed on the extension member proximate the first clamping member.

34. (previously presented) The cranial flap clamp of claim 27, wherein the first clamping member comprises a bore for receiving the extension member.

35. (previously presented) The cranial flap clamp of claim 27, wherein the opening comprises a countersink and the stop is disposed substantially within the countersink.

36. (previously presented) The cranial flap clamp of claim 27, wherein the first and second clamping members each comprise an arcuate outer edge.

37. (previously presented) The cranial flap clamp of claim 27, wherein the extension member comprises a ribbon.

38. (previously presented) The cranial flap clamp of claim 37, wherein the stop comprises a twisted portion of the ribbon.

39. (previously presented) The cranial flap clamp of claim 27, wherein the stop comprises a twisted portion of the extension member.

40. (canceled)

41. (previously presented) The cranial flap clamp of claim 27, wherein the stop is received in the recessed area.

42. (canceled)

43. (previously presented) The cranial flap clamp of claim 27, wherein the extension member is integral with the first clamping member.

44. (previously presented) The cranial flap clamp of claim 27, wherein the second clamping member comprises at least one fastener hole for receiving a fastener.

45. (currently amended) A cranial flap clamp for fixing a bone flap to a skull comprising:

a first clamping member;
a smooth extension member extending from the first clamping member;
a second clamping member having a first surface and a second surface opposite the first surface, the first surface facing the first clamping member and positionable against superior surfaces of the bone flap and skull, the second clamping member comprising an opening having a through hole extending from the first surface to the second surface, in which a portion of the extension member is disposed; extending through the hole to at least the second surface, the second clamping member having a plurality of radial cutouts extending radially inwards from an outer circumference of the second clamping member; and

an integrally formed stop on the extension member for limiting movement of the second clamping member on the extension member.

46. (previously presented) The cranial flap clamp of claim 45, wherein the extension member is integral with the first clamping member.

47. - 48. (canceled)

49. (previously presented) The cranial flap clamp of claim 45, wherein opposing surfaces of the first and second clamping members are substantially smooth.

50. (canceled)

51. (previously presented) The cranial flap clamp of claim 1, wherein the extension member is integral with the first clamping member.

52. (previously presented) The cranial flap clamp of claim 1, wherein the first clamping member comprises a bore for receiving the extension member.

53. (previously presented) The cranial flap clamp of claim 52, further comprising a head disposed on the extension member for slidably engaging the bore to prevent the first clamping member from sliding off the extension member.

54. (previously presented) The cranial flap clamp of claim 1, wherein, the extension member includes a flared proximal portion for preventing the second clamping member from sliding off.

55. - 63. (canceled)

64. (previously presented) The cranial flap clamp of claim 1 wherein the second clamping member has at least one fastener hole for receiving a fastener.

65. (previously presented) The cranial flap clamp of claim 1 wherein the portions of the first and second clamping members that abut the surfaces of the bone flap and skull are substantially smooth.

66. (canceled)

67. (previously presented) The cranial flap clamp of claim 2, wherein the extension member is integral with the first clamping member.

68. - 71. (canceled)

72. (previously presented) The cranial flap clamp of claim 2, wherein the second clamping member has at least one fastener hole for receiving a fastener.

73. (previously presented) The cranial flap clamp of claim 2, wherein the portions of the first and second clamping members that abut the surfaces of the bone flap and skull are substantially smooth.

74. - 75. (canceled)

76. (previously presented) The cranial flap clamp of claim 11, wherein the extension member is a ribbon and the opening of the second clamping member has a rectangular shape.

77. (canceled)

78. (previously presented) The cranial flap clamp of claim 11, wherein the first clamping member comprises a bore for receiving the extension member.

79. (previously presented) The cranial flap clamp of claim 78, further comprising a head disposed on the extension member for slidably engaging the bore to prevent the first clamping member from sliding off the extension member.

80. (previously presented) The cranial flap clamp of claim 79, wherein the extension member includes a flared proximal portion for preventing the second clamping member from sliding off.

81. (previously presented) The cranial flap clamp of claim 11, wherein the extension member is a tube and the stop comprises a crimp in the tube.

82. (previously presented) The cranial flap clamp of claim 81, wherein the opening has a substantially circular shape that is smaller than the crimp.

83. (previously presented) The cranial flap clamp of claim 82, wherein the opening includes a countersink for receiving the stop and the stop fits substantially within the countersink.

84. (previously presented) The cranial flap clamp of claim 83, wherein the second clamping member comprises a recessed area proximate the opening for receiving the stop.

85. (previously presented) The cranial flap clamp of claim 11, wherein the portions of the first and second clamping members that abut the surfaces of the bone flap and skull are substantially smooth.

86. (canceled)

87. (previously presented) The cranial flap clamp of claim 27, wherein the stop is provided by mechanical deformation of the extension member at a surgeon selected location along its length.

88. (previously presented) The cranial flap clamp of claim 45, wherein the first and second clamping members each have a concave inner surface.

89. (previously presented) The cranial flap clamp of claim 45, wherein the first and second clamping members each have an inner surface capable of flattening out upon fixation to a bone flap and skull.

90. (previously presented) The cranial flap clamp of claim 45, wherein at least one of the first and the second clamping members is disk shaped.

91. (currently amended) The cranial flap clamp of claim 45, wherein the extension member is a ribbon and the opening through hole of the second clamping member has a rectangular shape.

92. (previously presented) The cranial flap clamp of claim 91, wherein the stop comprises a twisted portion of the ribbon.

93. (previously presented) The cranial flap clamp of claim 45, wherein the extension member is a tube and the stop comprises a crimp in the tube.

94. (currently amended) The cranial flap clamp of claim 45, wherein the second clamping member comprises a recessed area proximate the opening through hole for receiving the stop.

95. (previously presented) The cranial flap clamp of claim 94, wherein the recessed area forms a cutting surface so that the stop may be formed by twisting and shearing of the extension member.

96. (previously presented) The cranial flap clamp of claim 45, wherein the first clamping member comprises a bore for receiving the extension member.

97. (previously presented) The cranial flap clamp of claim 96, wherein the extension member comprises a head disposed thereon for slidably engaging the bore to prevent the first clamping member from sliding off the extension member.

98. (previously presented) The cranial flap clamp of claim 45, wherein the extension member includes a flared proximal portion for preventing the second clamping member from sliding off.

99. (currently amended) The cranial flap clamp of claim 45, wherein the opening through hole includes a countersink for receiving the stop and the stop fits substantially within the countersink.